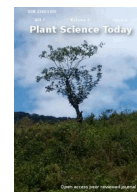




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Plant Science Today<http://horizonepublishing.com/journals/index.php/PST>**Research Communication****Leucobryum aduncum var. scalare (Leucobryaceae: Bryophyta) - new to the Eastern Ghats****P.M. Biju and A.E.D. Daniels**

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P.M. Biju

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A.E.D. Daniels

 dulipdaniels@yahoo.co.uk**Abstract**

Leucobryum aduncum var. *scalare*, so far known from the Northeast and the Western Ghats for India, is added here to the moss flora of the Eastern Ghats. A detailed description with figures substantiated by a photo plate and a key to distinguish the species of *Leucobryum* Hampe from the region.

*Keywords*Bryophyta; Eastern Ghats; Leucobryaceae; *Leucobryum aduncum* var. *scalare*

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Introduction

In India, *Leucobryum* Hampe is represented by nine species (Lal, 2005; Daniels, 2010; Dandodiya *et al.*, 2011). Of these, seven have been reported from the Western Ghats. However, only two species, *L. humillimum* (Besch.) Cardot (*L. cucullifolium* Cardot, now a synonym of *L. humillimum*) and *L. juniperoideum* (Brid.) Müll.Hal., have so far been reported from the Eastern Ghats (Satish *et al.*, 2014).

Indian bryophytes have still not received the due attention they deserve and therefore, information on their taxonomy and distribution is far from adequate. Many regions rich in bryophyte diversity remain un/underexplored, one being the

Eastern Ghats. Hence, surveys were initiated a couple of years ago in Kolli Hills of Eastern Ghats. As a result, one species of the genus *Leucobryum*, *L. aduncum* Dozy & Molk. var. *scalare* (Müll.Hal. ex M. Fleisch.) A. Eddy, so far known from the Northeast and the Western Ghats in India, was collected from the Kolli Hills which is incidentally a new record for the Eastern Ghats. The species is described and illustrated in detail, substantiated by a taxonomic key including both the earlier reported species and a photographic plate for easy identification of the species. The present addition raises the number of species in the Eastern Ghats to three. The specimen is housed at the herbarium of Scott Christian College (SCCN).

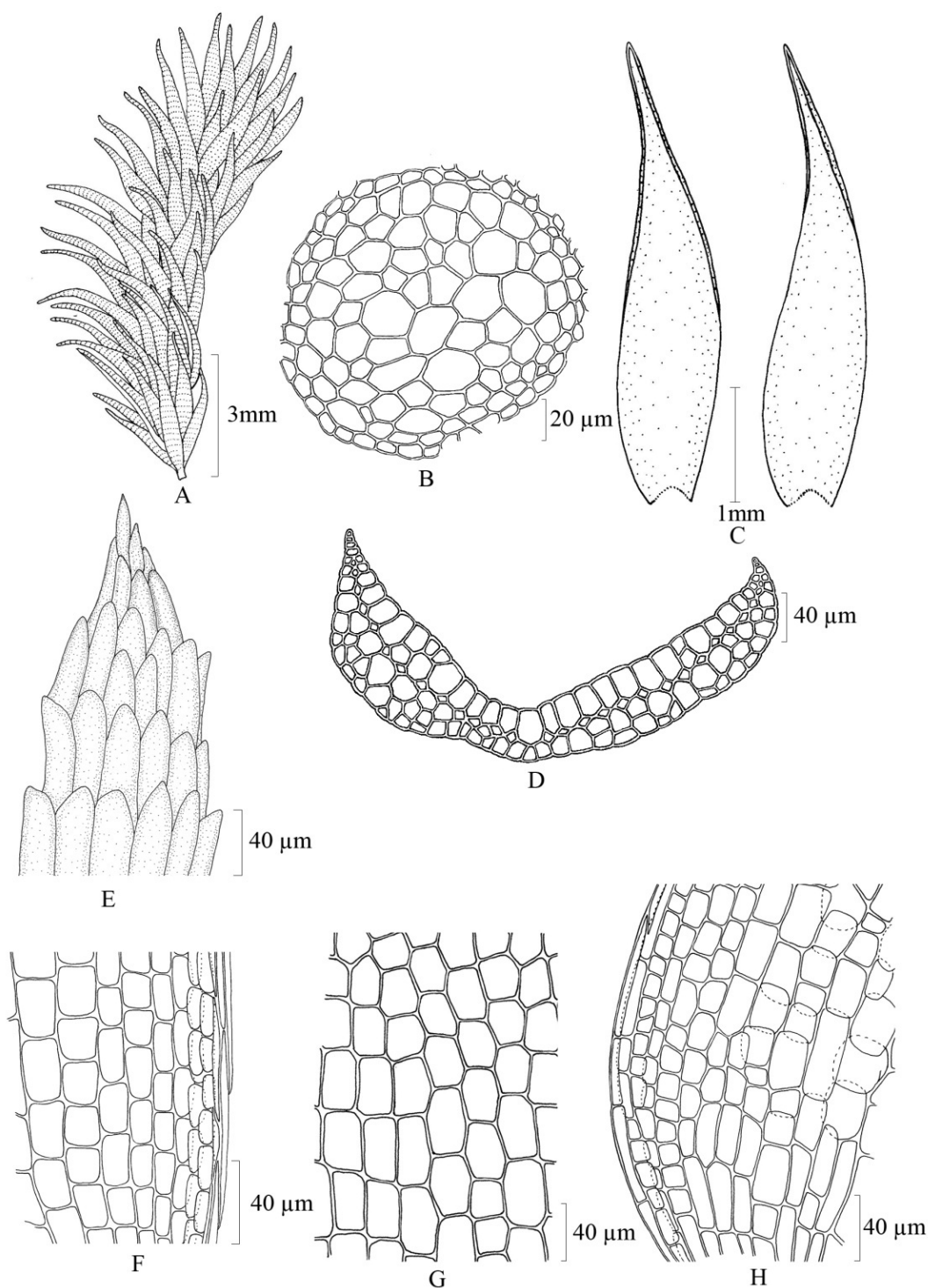


Fig. 1. *Leucobryum aduncum* Dozy & Molk. var. *scalare* (Müll.Hal. ex M. Fleisch.) A. Eddy
 A. Plant B. Cross section of stem C. Leaves D. Cross section of leaf E. Leaf apical cells
 F. Leaf median cells at margin G. Leaf median cells H. Leaf basal cell (*Biju 1566 p.p.*)

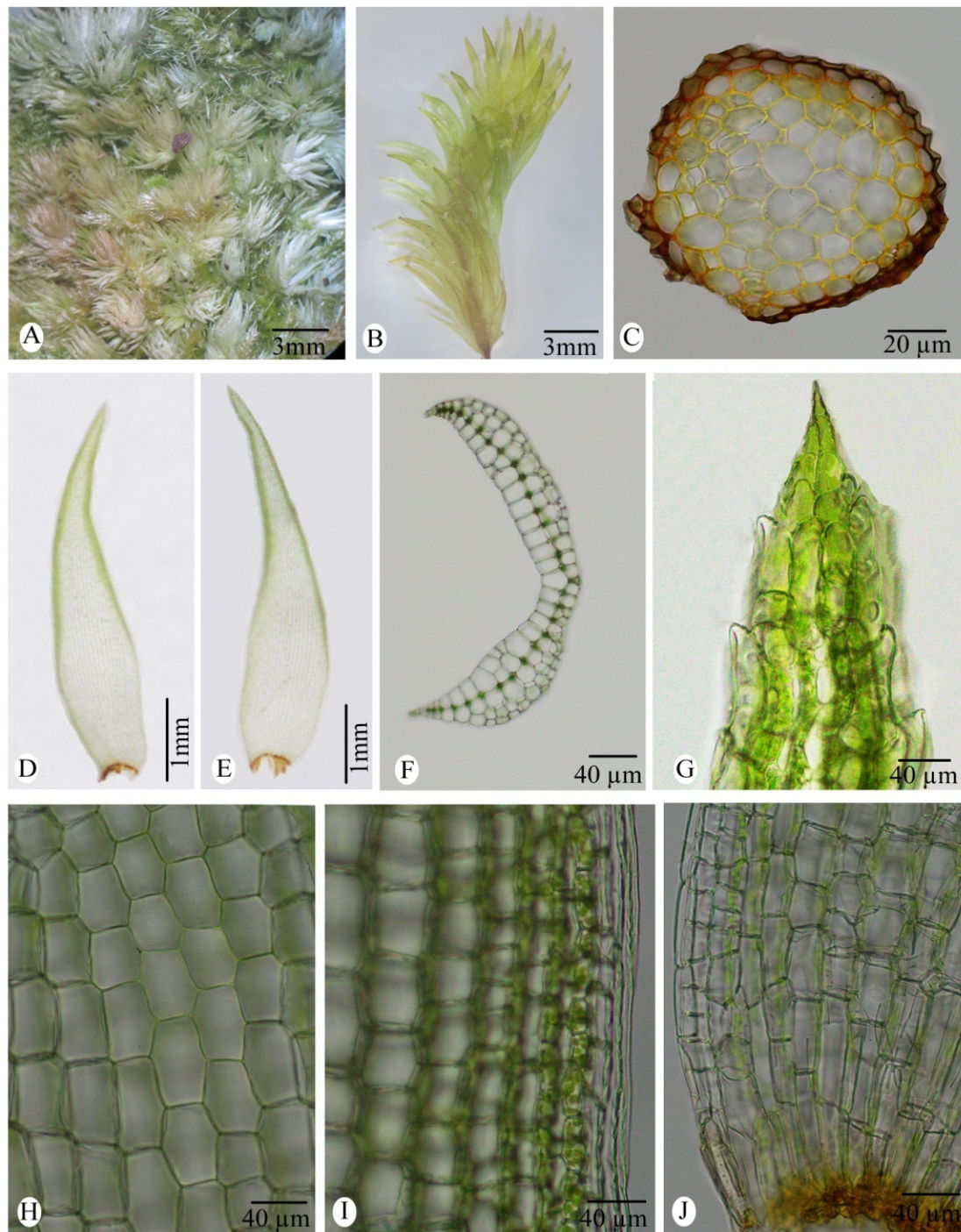


Fig. 2. *Leucobryum aduncum* Dozy & Molk. var. *scalare* (Müll.Hal. ex M. Fleisch.) A. Eddy
 A. Habit B. Plant C. Cross section of stem D & E. Leaves F. Cross section of leaf
 G. Leaf apex H. Leaf median cells I. Leaf hyaline cells at margin J. Leaf basal cells

Key to the species

- 1a. Stems with a central strand; leaves flexuose, cucullate, acute, closed at apex

L. humillimum

- b. Stems without a central strand; leaves rigid, concave, canaliculate, open at apex 2

- 2a. Leaves smooth on back *L. juniperoideum*

- b. Leaves raised-scabrous on back

L. aduncum var. *scalare*

Leucobryum aduncum Dozy & Molk. var. ***scalare*** (Müll.Hal. ex M. Fleisch.) A. Eddy, Handb. Males. Moss. 2: 11. 1990. *Leucobryum scalare* Müll.Hal. ex M. Fleisch., Musci Buitenzorg 1: 143. 1904. - Types: the Philippines, Luzon, Benguet, 5000 ft., Micholitz 173 (BM, FH); Indonesia, Tjibodas, 1450 m (F); Sumbawa, 1200 m, Warburg s.n. (OXF, BM). (Figs. 1 & 2)

Plants 1 - 2 cm tall, glaucous-green, brown-tinged above, white below. Stems branched or not, ca 0.20 × 0.18 mm in cross section, ovate, without a central strand; cortex 2- or 3-layered; cells 8 - 12 × 4 - 8 µm, thick-walled; medullary ones 16 - 32 × 12 - 24 µm, quadrate-hexagonal, thin-walled. Leaves erectopatent to patent, falcate to falcato-secund when dry, 3 - 3.2 × 0.8 - 1 mm, oblong-lanceolate, raised-scabrous abaxially, canaliculate at apex, with 1 layer of chlorocysts between 2 layers of leucocysts above in cross section, becoming 3- or 4-layered below; apical cells 56 - 64 × 12 - 24 µm; median cells 32 - 72 × 28 - 36 µm; basal cells 20 - 40 × 12 - 20 µm; hyaline marginal cells 3- to 6-rowed at middle with distinctly nodulose and pitted walls, becoming 1-rowed above and 3-rowed below; inner ones 10 - 32 × 10 - 16 µm; those at the outermost 2 rows 80 - 160 × 8 - 12 µm, narrow, elongate; leucocysts 24 - 36 × 20 - 32 µm, rectangular; costa broad, raised-scabrous abaxially. Sporophyte not seen.

Habitat: Lignicolous, in plantations, ca 1200 m.

Distribution: India: Northeast India (Manipur), [Western Ghats of Kerala and Tamil Nadu, Eastern Ghats (Tamil Nadu - Kolli Hills)], Cambodia, China, Fiji, Indonesia, Malay Peninsula, Myanmar, New Caledonia, New Guinea, the Philippines, Sri Lanka, Thailand and Vietnam.

Specimens examined: Eastern Ghats: Tamil Nadu, Namakkal Dist., Kolli Hills, Perumakka Shola, ca 1200 m, 21.1.2016, P.M. Biju 1566 p.p.

Discussion

The Eastern Ghats is a least-explored region in terms of bryophyte diversity which is evident by

the number of new reports made by Kumar and Krishnamurthy (2007), Sathish *et al.* (2014), Biju and Daniels (2016), and Palani *et al.* (2017). The present report supports this fact as *Leucobryum aduncum* var. *scalare* is being reported as new to the bryoflora of the Eastern Ghats. Almost all the species so far reported from the Eastern Ghats are already known from the Western Ghats as well (Daniels, 2010). This similarity in the distribution of species in both regions might reflect their geological past.

Acknowledgements

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